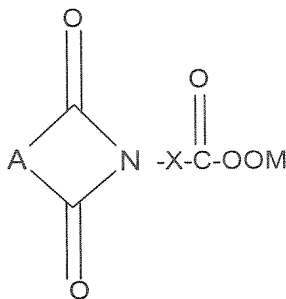


IN THE CLAIMS

Please amend the claims as follows:

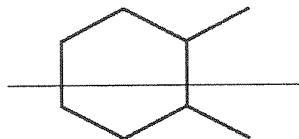
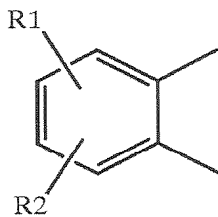
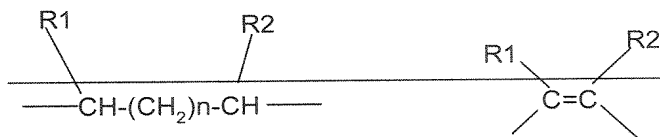
Claims 1-28 (Canceled).

Claim 29 (Currently Amended): An imido-alkanpercarboxylic acid represented by formula (I):

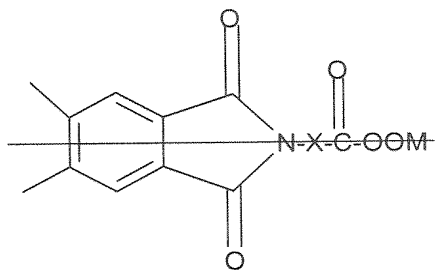


formula (I)

wherein A is ~~selected from the group consisting of:~~



and



wherein:

~~n is 0, 1 or 2,~~

R1 is hydrogen, chlorine, bromine, C₁-C₂₀ alkyl, C₂-C₂₀ alkenyl, aryl, or alkylaryl,

and

R2 is hydrogen, chlorine, bromine -SO₃M, -CO₂M, -CO₃M or -OSO₃M,

~~M is hydrogen, an ammonium alkaline metal, or an alkaline earth metal equivalent,~~

and

~~X is C₄-C₁₉ alkylene or an arylene;~~

wherein said imido-alkanpercarboxylic acid is in a crystalline form of alpha that is stable at storage at the solid state, but when dispersed in water is capable of being transformed into one or more crystals of beta crystalline form that are stable in aqueous environment,

wherein said one or more crystals of beta crystalline form have an average size of lower than 30 microns,

and wherein the respective spectra of the alpha crystalline form obtained by X-ray Diffraction and Surface Infrared Spectroscopy techniques show, with respect to the spectra of the beta form of the same peracid, exhibit a different spectral X-ray image and a typical absorption shift in the 1697-1707 cm⁻¹ zone by Surface Infrared Spectroscopy towards higher frequencies, of the order of 10 cm⁻¹.

Claim 30 (Previously Presented): The imido-alkanpercarboxylic acid according to claim 29, wherein the acid is ϵ -phthalimido-peroxyhexanoic acid in alpha crystalline form, and has the following chemico-physical parameters:

X-ray spectrum showing peaks at $2\theta = 17.5^\circ$ and 19.0° and quadruplet at $2\theta = 24.2^\circ - 25.0^\circ$, and

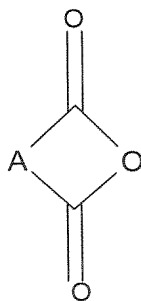
Surface Infrared Spectroscopy spectrum showing a peak with maximum absorption in the $1707\text{-}1712\text{ cm}^{-1}$ zone, for anhydrous crystal, having a water absorption at $3450\text{-}3500\text{ cm}^{-1}$ lower than 5%.

Claims 31-40 (Cancelled)

Claim 41 (Withdrawn): A process for the preparation of said imido-alkanperoxycarboxylic acid of claim 29, said process comprising:

I) peroxidating, in the presence of hydrogen peroxide and of a strong acid at a temperature of between $5^\circ\text{-}50^\circ\text{C}$, an imido-alkancarboxylic acid precursor obtained by reacting:

a) an anhydride represented by formula (II):

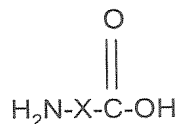


formula (II)

or the corresponding acid,

with

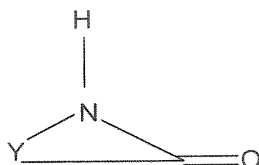
b1) an aminoacid represented by formula (III):



formula (III)

or

b2) a lactam represented by formula (IV):



formula (IV)

Y having the meanings of X; and

c) water;

at temperatures in the range 100°C-250°C, under pressure of an inert gas from 1 to 30 bar, for a reaction time of from 2 to 20 hours;

II) obtaining of a melted phase of eutectic composition of said imido-alkanperoxycarboxylic acid of formula (I) by heating a suspension in water of said imido-alkanperoxycarboxylic acid until the complete melting of the solid, said eutectic having a composition on a molar basis of no more than two moles of water/imido-alkanpercarboxylic acid;

III) separating said melted organic phase of eutectic composition from the aqueous phase in balance and recovering a melted organic phase comprising said imido-alkanpercarboxylic acid;

IV) quenching said melted organic phase to obtain said crystalline form of alpha, stable at the solid state.

Claim 42 (Withdraw): The process according to claim 41, wherein said quenching is carried out by dripping said melted organic phase of eutectic composition in liquid nitrogen.

Claim 43 (Withdraw): The process according to claim 41, wherein said quenching is carried out by dripping said melted organic phase of eutectic composition in cold water, under stirring, having a temperature lower than 15°C.

Claim 44 (Withdraw): The process according to claim 41, wherein said quenching is carried out by percolating said melted organic phase on a metal surface, or on two metal surfaces, coupled and cooled at temperatures lower than 30°C.

Claim 45 (Withdraw): The process according to claim 41, wherein in step I) the ratio by moles between a/(b1 or b2)/c is in the range 1/0.8-:1.2/0.5:3.

Claim 46 (Withdraw): The process according to claim 41, wherein in step I) the anhydride a) or said corresponding acid is reacted with said lactam b2).

Claim 47 (Withdraw): The process according to claim 41, wherein said anhydride or said corresponding acid is selected from the group consisting of: succinic, glutaric, maleic, trimellitic, phthalic, pyromellitic, alkyl-succinic, and alkenyl-succinic anhydride.

Claim 48 (Withdraw): The process according to claim 41, wherein said amino acid is selected from the group consisting of: omega-aminobutyric, omega-aminovalerianic, omega-aminocaproic and omega-aminolauric acid.

Claim 49 (Withdraw): The process according to claim 41, wherein said lactam is selected from the group consisting of: gamma-pyrrolidone, delta-piperidone, epsilon-caprolactam, and omega-lauro lactam.

Claim 50 (Withdraw): The process according to claim 41, wherein in step I) the temperature is in the range 130°C-180°C and the pressure is in the range 4-8 bar.

Claim 51 (Withdraw): The process according to claim 41, wherein said imido-alkanpercarboxylic acid is selected from the group consisting of phthalimido-peracetic acid, ε-phthalimido peroxyhexanoic acid, 3-phthalimido-perpropionic acid, 4-phthalimido-perbutyric acid, 2-phthalimido-diperglutaric acid, 2-phthalimido-dipersuccinic acid, 3-phthalimido-perbutyric acid, 2-phthalimido-perpropionic acid, 3-phthalimido-diperadipic acid, naphthalimido-peracetic acid, 2-phthalimido-monopersuccinic acid.

Claim 52 (Withdraw): The process according to claim 41, wherein in step II) one or more sequestrants are added in the aqueous phase.

Claim 53 (Cancelled)

Claim 54 (Withdrawn, Currently Amended): A bleach or a disinfectant comprising said imido-alkanpercarboxylic acid as claimed in claim 29 ~~or claim 30~~.

Claim 55 (Cancelled)

Claim 56 (New): A bleach or a disinfectant comprising said imido-alkanpercarboxylic acid as claimed in claim 30.

Claim 57 (New) A process, comprising dispersing the imido-alkanpercarboxylic acid according to claim 29 in water.

Claim 58 (New) A process, comprising dispersing the imido-alkanpercarboxylic acid according to claim 30 in water.

Claim 59 (New) The process as claimed in Claim 57, wherein dispersing the imido-alkanpercarboxylic acid in water produces an imido-alkanpercarboxylic acid of beta crystalline form, wherein said imido-alkanpercarboxylic acid of beta crystalline form is in the form of one or more particles having an average size of lower than 30 microns.

Claim 60 (New) The process as claimed in Claim 57, wherein said imido-alkanpercarboxylic acid of beta crystalline form is in the form of one or more particles having an average size of lower than 10 microns.

Claim 61 (New) The process as claimed in Claim 57, wherein said imido-alkanpercarboxylic acid of beta crystalline form is in the form of one or more particles having an average size of lower than 8 microns.

Claim 62 (New) The process as claimed in Claim 57, wherein said imido-alkanpercarboxylic acid of beta crystalline form is in the form of one or more particles having an average size of the order of 2 microns.

Claim 63 (New) An imido-alkanpercarboxylic acid of beta crystalline form produced by the process of Claim 57.

Claim 64 (New) An imido-alkanpercarboxylic acid of beta crystalline form produced by the process of Claim 58.

Claim 65 (New) An imido-alkanpercarboxylic acid of beta crystalline form produced by the process of Claim 59.

Claim 66 (New) An imido-alkanpercarboxylic acid of beta crystalline form produced by the process of Claim 60.

Claim 67 (New) An imido-alkanpercarboxylic acid of beta crystalline form produced by the process of Claim 61.

Claim 68 (New) An imido-alkanpercarboxylic acid of beta crystalline form produced by the process of Claim 62.